

CLAIMS

1. An information distribution system transmitting information based on a demand from a terminal apparatus from a server apparatus to the terminal apparatus,
5 said server apparatus comprising:
a first transceiver for transmission to the terminal apparatus; and
a first controller for scheduling a point of time for distribution based on a state of a communication line used for distribution of information in accordance
10 with a request signal requesting information from the terminal apparatus received at said transceiver and controlling the system for distribution of information for said request signal to the terminal apparatus through
15 the transceiver at the scheduled point of time, and
said terminal apparatus comprising:
a second transceiver for communication with a server apparatus; and
a second controller for generating a request
20 signal for requesting the distribution of desired information, controlling the system for transmission of the requested information to said server through said second transceiver, and controlling the system for reception of said information distributed by said server apparatus in a period of time determined by said server
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apparatus with respect to said request signal.

2. An information distribution system as set forth in claim 1, wherein

said second controller of said terminal

5 apparatus generates a signal including time limit
information indicating a time limit for distribution of
said information as a request signal, and

said first controller of said server apparatus

schedules the point of time for distribution of

10 information based on the time limit for distribution
designated by said terminal apparatus and a state of a
communications line.

3. An information distribution system as set forth in claim 2, wherein the first controller of said server apparatus detects a traffic load of said communication line and distributes the information at a period of time when the traffic load is small.

4. An information distribution system as set forth in claim 3, wherein

20 said terminal apparatus further comprises an

interface for providing information to a user, and

estimates a period time until the time limit of

distribution and a point of time when the traffic load is small, controls the system for notification of said

25 estimated point of time to said terminal apparatus, and

schedules so as to distribute the information at the estimated point of time, and

5 said second controller of said terminal apparatus controls the system for provision of the point of time of distribution notified from the server apparatus to the user through the interface.

5. An information distribution system as set forth in claim 2, wherein said first controller of said server apparatus calculates an amount of charge for distribution 10 of information based on a length of the period of time until the time limit of distribution designated by the terminal apparatus and performs processing for charging the terminal apparatus based on the calculated amount of charge.

15 6. An information distribution system as set forth in claim 2, wherein said second transceiver of said terminal apparatus communicates with the server through a wireless transmission base station.

7. An information distribution system as set forth 20 in claim 6, wherein said first controller of said server apparatus calculates an amount of charge for distribution of information based on an efficiency of use of a communication resource in communication between said terminal apparatus and said base station and performs 25 processing for charging the terminal apparatus based on

the calculated amount of charge.

8. An information distribution system as set forth in claim 1, wherein

5 said first controller of said server apparatus calculates cost information indicating communication costs based on a state of said communication line by region, by time band, or by time band for individual regions and controls the system for distribution of the calculated cost information to the terminal apparatus;

10 said second controller of said terminal apparatus generates, as said request signal, a signal including distribution information designating a desired region or time band or both desired for communication of information; and

15 said server apparatus schedules the system for distribution of information to the designated region and time band based on the request signal.

9. A terminal apparatus receiving distribution of information from a server apparatus,

20 said terminal apparatus receiving distribution of information from a server apparatus comprising:

 a transceiver for transmission to the server apparatus; and

 a controller for generating a request signal

25 for requesting the distribution of desired information,

controlling the system for transmission of the requested information to said server through said transceiver, and controlling the system for reception of said information distributed by said server apparatus in a period of time 5 determined by said server apparatus with respect to said request signal.

10. A terminal apparatus as set forth in claim 9, wherein said controller generates a signal including time limit information indicating a time limit for 10 distribution of said information as a request signal.

11. A terminal apparatus as set forth in claim 10, further comprising an interface for providing information to a user, and

wherein the controller controls the system for 15 provision of the point of time of distribution notified from the server apparatus to the user through the interface.

12. A terminal apparatus as set forth in claim 10, wherein said transceiver communicates with the server 20 through a wireless transmission base station.

13. A terminal apparatus as set forth in claim 9, wherein said controller generates, as said request signal, a signal including distribution information designating a desired region or time band or both desired 25 for communication of information.

14. A terminal apparatus as set forth in claim 13,
further comprising an interface for providing information
to a user, and

wherein said controller controls the system for
5 provision to the user through the interface of cost
information based on a state of said communication line
by region, by time band, or by time band for individual
regions as received from the server apparatus.

15. A terminal apparatus as set forth in claim 10,
10 further comprising an interface for providing information
to a user, and

wherein said terminal apparatus controls the
system for provision to the user through the interface of
a period of time until a time limit of distribution and
15 time band where the traffic load of the communication
line is small notified from the server apparatus.

16. A terminal apparatus as set forth in claim 9,
further comprising

a counter for counting a period of time;
20 a power supply for controlling the supply of
power to each portion of the terminal apparatus and
substantially making each portion valid or invalid; and
a storage for storing information, and
said controller receiving a scheduled point of
25 time at which said information is to be distributed as

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notified by said server apparatus, stores said received
scheduled period of time of distribution in said storage,
starts the supply of power from said power supply and
receives information distributed from said server
apparatus when the parts of the terminal apparatus are
invalid in state near the scheduled period of time of
distribution based on the scheduled point of time of
distribution stored in said storage and the measured
period of time.

17. A terminal apparatus as set forth in claim 16,
wherein said controller stops the supply of power from
said power supply and makes the parts of the terminal
apparatus invalid in state when the reception of
information distributed from said server apparatus ends.

18. A server apparatus transmitting information
based on a demand from a terminal apparatus,
said server apparatus comprising:
a transceiver for transmission to the terminal
apparatus; and
a controller for scheduling a point of time for
distribution based on a state of a communication line
used for distribution of information in accordance with a
request signal requesting information from the terminal
apparatus received at said transceiver and controlling
the system for distribution of information for said

request signal to the terminal apparatus through the transceiver at the scheduled point of time.

19. A server apparatus as set forth in claim 18, wherein an internal controller schedules the point of 5 time for distribution of information based on time limit information indicating a time limit for distribution of said information included in said request signal and the state of a communication line.

20. A server apparatus as set forth in claim 19, 10 wherein the controller detects a traffic load of said communication line and distributes the information at a period of time when the traffic load is small.

21. A server apparatus as set forth in claim 20, wherein said controller estimates a period of time until 15 the time limit of distribution and a point of time when the traffic load is small, controls the system for notification of said estimated point of time to said terminal apparatus, and schedules distribute the information at the estimated point of time.

20 22. A server apparatus as set forth in claim 18, where said controller calculates an amount of charge for distribution of information based on a length of the period of time until the time limit of distribution designated by the terminal apparatus and performs 25 processing for charging the terminal apparatus based on

the calculated amount of charge.

23. A server apparatus as set forth in claim 18, where said controller calculates an amount of charge for distribution of information based on an efficiency of use 5 of a communication resource in communication between said terminal apparatus and said base station and performs processing for charging the terminal apparatus based on the calculated amount of charge.

24. A server apparatus as set forth in claim 18, 10 where said controller calculates cost information indicating communication costs based on a state of said communication line by region, by time band, or by time band for individual regions and controls the system for distribution of the calculated cost information to the 15 terminal apparatus and schedules distribution of information to the designated region and time band based on the request signal.

25. An information distribution method for transmitting information based on a request from a 20 terminal apparatus from a server apparatus to the terminal apparatus,

25 said information distribution method for transmitting information based on a request from a terminal apparatus from a server apparatus to the terminal apparatus, comprising the steps of:

having said terminal apparatus generates a request signal requesting distribution of desired information;

transmitting said request signal from said 5 terminal apparatus to said server;

having said server apparatus schedule a point of time for distribution based on a state of a communication line to be used for the distribution of information in accordance with a request signal 10 requesting information from said terminal apparatus;

distributing information for said request signal from said server apparatus to said terminal apparatus at the scheduled point of time; and

having said terminal apparatus receive said 15 information distributed from said server apparatus.

26. An information distribution method as set forth in claim 25, wherein:

said request signal is a signal including time limit information indicating a time limit of distribution 20 of said information, and

said server apparatus schedules a point of time for distribution of the information based on the time limit information of said request signal and a state of a communication line.

25 27. An information distribution method as set forth

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in claim 26, wherein said server apparatus detects a traffic load of said communication line and schedules distribution of said information for a period of time where the traffic load is small

5 28. An information distribution method as set forth in claim 26, wherein, when receiving said request signal, said server apparatus estimates a period of time until the time limit for distribution and a point of time where the traffic load is small, notifies the estimated point of time to said terminal apparatus, and distributes the 10 information at the estimated point of time.

29. An information distribution method as set forth in claim 27, wherein said server apparatus calculates an amount of charge for distribution of information based on 15 a length of the period of time until the time limit of distribution designated by the terminal apparatus and performs processing for charging the terminal apparatus based on the calculated amount of charge.

30. An information distribution method as set forth 20 in claim 26, wherein said terminal apparatus communicates with the server through a wireless communication base station.

31. An information distribution method as set forth in claim 30, wherein said server apparatus calculates an 25 amount of charge for distribution of information based on

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an efficiency of use of a communication resource in communication between said terminal apparatus and said base station and performs processing for charging the terminal apparatus based on the calculated amount of 5 charge.

32. An information distribution method as set forth in claim 25, wherein:

10 said server apparatus calculates cost information indicating communication costs based on a state of said communication line by region, by time band, or by time band for individual regions and distributes the calculated cost information to the terminal apparatus;

15 said terminal apparatus generates a signal including distribution information designating a region or time band or both desired for distribution of information; and

20 said server apparatus schedules distribution of information to the designated region and time band based on the request signal.

33. A data reception method for receiving distribution of information from a server apparatus,

25 said data reception method for receiving distribution of information from a server apparatus, comprising the steps of:

generating a request signal requesting
distribution of desired information;
transmitting said requested information to said
server; and

5 receiving said information distributed by said
server apparatus in a period of time determined by said
server apparatus for said request signal.

34. A data reception method as set forth in claim
33, further comprising a step of generating a signal
10 including time limit information indicating a time limit
for distribution of said information as said request
signal.

35. A data reception method as set forth in claim
33, further comprising a step of generating a signal
15 including distribution information designating a desired
region or time band or both for distribution of
information as said request signal.

36. A data reception method as set forth in claim
35, further comprising a step of receiving from said
20 server apparatus cost information indicating
communication costs based on a state of said
communication line by region or by time band or by time
band for individual regions.

37. A data reception method as set forth in claim
25 34, further comprising a step of providing the user with

a period of time until said time limit of distribution and point of time where the traffic load of the communication line is small as notified from said server apparatus.

5 38. A data reception method as set forth in claim 33, further comprising the steps of:

 receiving a scheduled point of time for distribution of information from said server apparatus and

10 controlling a power supply of a receiver to enable reception of information distributed from said server apparatus near the scheduled period of time of distribution based on the received scheduled point of time of distribution and an internally measured period of 15 time.

 39. A data reception method as set forth in claim 38, further comprising a step of controlling the power supply of the receiver to cut the supply of power to at least part of the circuits of the receiver when it 20 finishes receiving the information distributed from said server apparatus.

 40. A data transmission method for transmitting information based on a request from a terminal apparatus, said data transmission method for transmitting 25 information based on a request from a terminal apparatus,

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comprising the steps of:

receiving a request signal requesting information from a terminal apparatus;

scheduling a point of time for distribution based on a state of a communication line used for distribution of information; and

transmitting the information for the request signal to the terminal apparatus at the scheduled point of time.

10 41. A data transmission method as set forth in claim 40, further comprising a step of scheduling the point of time for distribution of information based on time limit information indicating a time limit of distribution of information included in said request signal and the state of the communication line.

15 42. A data transmission method as set forth in claim 41, further comprising a step of detecting a traffic load of said communication line and scheduling distribution of said information in a period of time where the traffic load is small.

20 43. A data transmission method as set forth in claim 42, further comprising the steps of, when receiving said request signal, estimating a period of time until said time limit of distribution and point of time where the traffic load is small, notifying said estimated point

of time to said terminal apparatus, and scheduling distribution of said information at the estimated point of time.

44. A data transmission method as set forth in
5 claim 40, further comprising a step of calculating an amount of charge for distribution of information based on a length of the period of time until the time limit of distribution and performing processing for charging the terminal apparatus based on the calculated amount of
10 charge.

45. A data transmission method as set forth in
claim 40, further comprising a step of calculating an amount of charge for distribution of information based on an efficiency of use of a communication resource in
15 communication between said terminal apparatus and a wireless communication base station and performing processing for charging the terminal apparatus based on the calculated amount of charge.

46. A data transmission method as set forth in
20 claim 40, further comprising a step of calculating cost information indicating communication costs based on a state of said communication line by region, by time band, or by time band for individual regions and distributing the calculated cost information to the terminal
25 apparatus.

47. A data transmission method as set forth in
claim 46, further comprising a step of scheduling
distribution of information to a region and time band
included in a request signal from said terminal
5 apparatus.